

WHAT IS CLAIMED IS:

1 1. A process for producing a carboxylic acid comprising culturing *Candida*
2 *sp.* in a fermentation medium containing a substrate of the formula $R(CH_2)_nCH_3$, wherein n is
3 ≥ 1 and R is selected from the group consisting of epoxide, alkoxy, ether, saturated primary
4 alcohol, cycloalkyl, aryl, diol and diol ester, whereby at least one terminal methyl group of
5 the substrate is oxidized to a carboxylic acid.

1 2. The process of claim 1 wherein the substrate is dissolved in a solvent prior
2 to contact with the fermentation medium.

1 3. The process of claim 2 wherein the solvent is an organic solvent.

1 4. The process of claim 3 wherein the organic solvent is selected from the
2 group consisting of ethanol and hexane.

1 5. The process of claim 3 wherein the organic solvent is acetone.

1 6. The process of claim 1 wherein the *Candida sp.* is selected from the group
2 consisting of *C. albicans*, *C. cloacae*, *C. guilliermondii*, *C. intermedia*, *C. lipolytica*, *C.*
3 *maltosa*, *C. parapsilosis*, and *C. zeylenoides*.

1 7. The process of claim 1 wherein the *Candida sp.* is *C. tropicalis*.

1 8. The process of claim 7 wherein *C. tropicalis* is substantially β -oxidation
2 pathway blocked.

1 9. The process of claim 8 wherein *C. tropicalis* is H5343.

1 10. The process of claim 8 wherein one or more P450 *CYP* genes, P450 *CPR*
2 genes, or a combination thereof is amplified in said *C. tropicalis*.

1 11. The process of claim 1 wherein the substrate is a compound selected from
2 the group consisting of dodecylvinyl ether, dihexyl ether, dipentyl ether, 1-dodecanol, 2-
3 hexyldecanol, 2-butyl-1-octanol, 1,2-hexadecanediol, epoxidized soybean oil, 1,2-
4 epoxytetradecane, butylcyclohexane, propylcyclohexane, ethylcyclohexane, polyethylene
5 glycol 200 monolaurate, polyethylene glycol 200 dilaurate.

1 12. A process for producing a carboxylic acid comprising culturing *Candida*
2 *sp.* in a fermentation medium containing a substrate selected from the group consisting of 12-
3 hydroxystearic acid, hexadecyl pelargonate, castor oil, hexadecyl acetate, dodecene,
4 tetradecene, hexadecene, octadecene, trans-2-nonene, 7-trans-tetradecene, 2-heptylundecanoic
5 acid and 2-hexyldecanoic acid whereby at least one terminal methyl group of the substrate is
6 oxidized to a carboxylic acid.

13. The process of claim 12 wherein the substrate is dissolved in a solvent prior to contact with the fermentation medium.

14. The process of claim 12 wherein the *Candida sp.* is selected from the group consisting of *C. albicans*, *C. cloacae*, *C. guilliermondii*, *C. intermedia*, *C. lipolytica*, *C. maltosa*, *C. parapsilosis*, and *C. zeylenoides*.

15. The process of claim 12 wherein the *Candida sp.* is *C. tropicalis*.

16. A process for producing an alcohol comprising culturing *Candida sp.* in a fermentation medium containing a substrate of the formula $R(CH_2)_nCH_3$, wherein n is ≥ 1 and R is selected from the group consisting of epoxide, alkoxy, ether, saturated primary alcohol, cycloalkyl, aryl, diol and diol ester, whereby at least one terminal methyl group of the substrate is oxidized to an alcohol.

17. The process of claim 16 wherein the substrate is dissolved in a solvent prior to contact with the fermentation medium.

18. The process of claim 17 wherein the solvent is an organic solvent.

19. The process of claim 18 wherein the organic solvent is selected from the group consisting of ethanol and hexane.

20. The process of claim 18 wherein the organic solvent is acetone.

21. The process of claim 16 wherein the *Candida sp.* is selected from the group consisting of *C. albicans*, *C. cloacae*, *C. guilliermondii*, *C. intermedia*, *C. lipolytica*, *C. maltosa*, *C. parapsilosis*, and *C. zeylenoides*.

22. The process of claim 16 wherein the *Candida sp.* is *C. tropicalis*.

23. The process of claim 22 wherein *C. tropicalis* is substantially β -oxidation pathway blocked.

24. The process of claim 23 wherein *C. tropicalis* is H5343.

25. The process of claim 23 wherein one or more P450 *CYP* genes, P450 *CPR* genes, or a combination thereof is amplified in said *C. tropicalis*.

26. The process of claim 16 wherein the substrate is a compound selected from the group consisting of dodecylvinyl ether, dihexyl ether, dipentyl ether, 1-dodecanol, 2-hexyldecanol, 2-butyl-1-octanol, 1,2-hexadecanediol, epoxidized soybean oil, 1,2-epoxytetradecane, butylcyclohexane, propylcyclohexane, ethylcyclohexane, polyethylene glycol 200 monolaurate, polyethylene glycol 200 dilaurate.

6 27. A process for producing an alcohol comprising culturing *Candida sp.* in a
7 fermentation medium containing a substrate selected from the group consisting of 12-
8 hydroxystearic acid, hexadecyl pelargonate, castor oil, hexadecyl acetate, dodecene,
9 tetradecene, hexadecene, octadecene, trans-2-nonene, 7-trans-tetradecene, 2-heptylundecanoic
10 acid and 2-hexyldecanoic acid, whereby at least one terminal methyl group of the substrate is
11 oxidized to an alcohol.

1 28. The process of claim 27 wherein the substrate is dissolved in a solvent
2 prior to contact with the fermentation medium.

1 29. The process of claim 27 wherein the *Candida sp.* is selected from the
2 group consisting of *C. albicans*, *C. cloacae*, *C. guilliermondii*, *C. intermedia*, *C. lipolytica*, *C.*
3 *maltosa*, *C. parapsilosis*, and *C. zeylenoides*.

1 30. The process of claim 27 wherein the *Candida sp.* is *C. tropicalis*.